

**A NEW GENUS AND SPECIES OF ALLANTINAE (HYMENOPTERA:
TENTHREDINIDAE) FROM SOUTHEASTERN UNITED STATES**

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Abstract.—*Allantunicus autumnalis*, a new genus and a new species of Tenthredinidae, subfamily Allantinae, is described from the sand dune area of coastal Alabama. The genus and species are diagnosed and compared to other North American Allantinae. Evidence strongly suggests that the larva feeds on inflorescences of *Polygonella gracilis* (Polygonaceae).

Key Words: sawfly, Tenthredinidae, Allantinae, *Polygonella gracilis*, Polygonaceae

The specimens on which the following new genus and new species are based were collected in autumn from *Polygonella gracilis* (Nutt.) Meisn. (Polygonaceae) in the sand dune area of coastal Alabama. Observations from separate larval collections in this same area strongly suggest that the larva feeds on the inflorescences of *Polygonella gracilis*, a plant of the sandhills of the Coastal Plain of the southeastern United States. A single specimen was initially discovered in the collection of the Mississippi Entomological Museum. In October 1996, the junior author visited the same collecting area and obtained additional specimens, including males. The new genus and species is morphologically distinct from all other North American Allantinae, and its presumed habits are unique among the Allantinae. Some of the remaining sawflies to be discovered in the Nearctic Region no doubt live in restricted habitats and are active during an unusual time of the season. The possibility of this being an adventive species was explored; however, there are no Neotropical allantines similar to this species and

no genus and species comparable to it from the rest of the world.

***Allantunicus* Smith, new genus**

Type species.—*Allantunicus autumnalis* Smith, new species.

Antenna (Fig. 4) filiform; 1st and 2nd segments each longer than broad; 3rd segment about $1.7 \times$ longer than 4th segment. Head narrowing behind eyes in dorsal view, distance behind eyes equal to half visible eye length; postocellar area as broad as long; mandibles symmetrical, each bidentate; malar space nearly linear; clypeus shallowly emarginate, laterally acute without rounded lobes; short genal carina indicated only below eye near mandible. Propleura broadly rounded and meeting on meson; mesopleuron and mesonotum smooth, without punctures. Tarsal claw (Fig. 3) with small inner tooth at center of claw, shorter than outer tooth; basal lobe absent. Abdomen without pairs of white spots on dorsum. Forewing with anal cross-vein oblique, with 4 cubital cells, M and Rs + M meeting Sc + R at same point. Hind-

wing without cells Rs and M; length of petiole of anal cell about half width of cell.

Etymology.—The name is based in part on the subfamily name, Allantinae, and the Latin *unicus*, indicating the unusual and unique characteristics of the genus.

Discussion.—The genus is separated from other allantine genera by the following combination of characters: short genal carina present only near mandible below eye; shallow clypeal emargination with acute lateral lobes; smooth, shining thorax without punctures on mesepisternum; short inner tooth of the tarsal claw; lack of closed cells Rs and M in the hindwing; and third antennal segment longer than fourth segment. *Allantunicus* will key to *Somanica* Smith in couplet 12 of my key to genera (Smith 1979). *Somanica* differs from *Allantunicus* by the subequal third and fourth antennal segments, lack of a genal carina, rounded lateral lobes of the clypeus, and long inner tooth of the tarsal claw, nearly as long as the outer tooth. In addition characteristics of the sheath and lancet (Figs. 1, 2, 5) of *Allantunicus* are unique among Nearctic Allantinae, namely the emarginate apex of the sheath in lateral view, slight widening of the sheath toward the apex in dorsal view, and presence of ctenidia on the annuli of the lancet.

Allantunicus belongs to the tribe Empriini, as defined by Smith (1979): mandibles symmetrical, bidentate; clypeus shallowly emarginate, propleura meeting broadly on the meson; mesopleuron without punctures; and veins M and Rs+M meeting Sc+R at the same point in the forewing.

This does not appear to be an adventive taxon. A survey of material in the National Museum of Natural History, Smithsonian Institution, and use of Malaise's (1963) key to world genera indicated no similarities to exotic taxa. *Allantunicus* runs to couplet 106 in Malaise's key which identifies *Mallachiella* Malaise (from Burma and the Himalayas) and *Heptapotamius* Malaise (from Turkestan). *Mallachiella* differs by the presence of a basal lobe on the tarsal

claw, a compressed antennal flagellum, subsymmetric mandibles, and a very deeply, semicircularly incised clypeus with long, acute lateral lobes. *Heptapotamius* differs by the head strongly enlarged behind the eyes in dorsal view, and the clypeus incised for about a quarter of its medial length and with blunt lateral teeth.

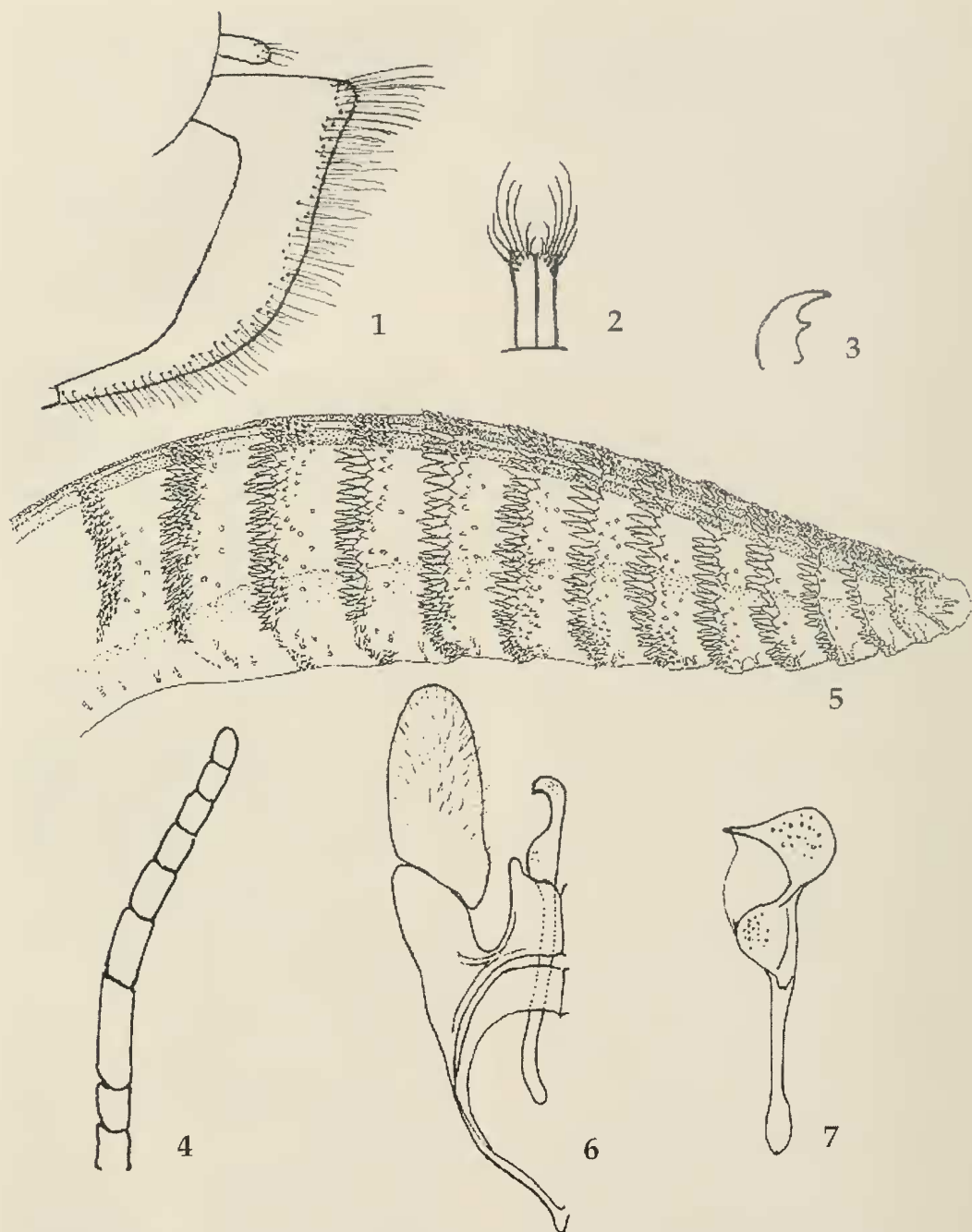
***Allantunicus autumnalis* Smith,
new species
(Figs. 1–7)**

Female.—Length, 8.5–9.0 mm. Antenna and head black; mandible dark orange with apex blackish, clypeus whitish; basal 3 maxillary palpal segments and labial submentum orange, rest of palpi and labium blackish. Thorax orange with anterior margin of propleuron, entire prosternum and mesosternum, and spot on lower portion of metepimeron, black. Abdomen orange; sheath black. Legs orange with apical 3 midtarsal segments and entire hindtarsus blackish. Wings moderately, uniformly infuscated; veins and stigma black.

Antenna as in Fig. 4, length 1.6× head width. Eyes slightly converging below; lower interocular distance subequal to eye length. Hindbasitarsus shorter than remaining hindtarsal segments combined, ratio 1.8:3.0. Head and body entirely shining and impunctate. Sheath (Figs. 1, 2) in lateral view with posterior margin slightly concave, in dorsal view slightly expanded toward apex with indication of small scopa; with long hairs curved mesally. Lancet as in Fig. 5, with stout ctenidia on annuli; serulae low, only apical 7 with fine posterior subbasal teeth.

Male.—Length, 8.0–9.0 mm. Coloration similar to female. Genitalia as in Figs. 6, 7.

Holotype.—Female from Alabama, labeled "Ala., Baldwin Co., Gulf Shores, 30°16'47" N, 87°42'49" W, 16 Oct. 1996, T.L. Schiefer," "on flowers of *Polygonella gracilis* in dredge spoil dunes," Deposited in the National Museum of Natural History, Smithsonian Institution, Washington D.C. on indefinite loan from the Mississippi En-



Figs. 1-7. *Allantunicus autumnalis*. 1, Sheath, lateral view. 2, Sheath, dorsal view. 3, Tarsal claw. 4, Antenna. 5, Lancet. 6, Male genitalia, genital capsule, left side, ventral view. 7, Male genitalia, penis valve, lateral view.

tomological Museum, Mississippi State University.

Paratypes.—ALABAMA: Same data as holotype (4 ♀); same data but 17 Oct. 1996 (3 ♀); same data but 14 Oct. 1991 (1 ♀); same data but 17 Oct. 1996, in flight near *Polygonella gracilis* in dredge spoil dunes (5 ♂); same data but 17 Oct. 1996, 30°16'52" N, 87°42'03" W, on flowers of *Polygonella gracilis* in dredge spoil dunes (2 ♀, 1 ♂). Deposited in the Mississippi Entomological Museum, Mississippi State University; National Museum of Natural History, Smithsonian Institution, Washington, D.C.; and Canadian National Collection, Ottawa.

Etymology.—The name is derived from the autumn flight of the species.

Host.—*Polygonella gracilis* (Nutt.) Meisn., wireweed (Polygonaceae) (see discussion).

Color variation.—Several specimens differ in color from the typical form as described. The mesosternum and mesepisternum of two females are mostly black except for the orange upper third of the mesepisternum and most of the metepisternum, cervical sclerites, metapleuron, and base of midcoxa. One male has a black mesosternum and mesepisternum except for a small orange spot on the upper corner of the mesepisternum, the metepleuron, and most of the lateral lobes of the mesonotum.

Discussion.—On 16–17 October 1996, the junior author collected most of the type series from *Polygonella gracilis* in a sand dune area at Gulf Shores, Alabama. All were net-collected on flowers or in flight near the plants. The 11 specimens collected on flowers were always oriented in alignment with the axis of the flower cluster. They were found on both horizontal and vertical flower clusters with their head facing either toward or away from the main stem of the plant. All except two of these individuals were sitting motionless on the flowers. One female observed in late afternoon occasionally turned around on the flower cluster to face the opposite direction.

It appeared to be tapping the flowers with its antennae, but no oviposition was observed. The next morning another individual was observed flying from one flower cluster to another on the same plant and then turning around several times like the one observed the previous afternoon. Two individuals were on flower clusters in which most of the flowers had not yet opened. The five specimens collected in flight that morning flew among the *Polygonella* in a fairly slow and erratic zigzag pattern. However, their evasive flight was very fast and direct. After about 10:30 am, there appeared to be a marked decrease in sawfly activity, and no additional specimens were observed at the type locality. This corresponded to an increase in temperature and increased pollinator activity. However, three additional specimens were collected about noon in similar habitat 0.6 miles from the original site. Only males were caught in flight; all females and one male were taken on the flower clusters.

Polygonella gracilis grows in the pure white sand characteristic of the dune habitats in the vicinity of Gulf Shores. The foredune and backdune habitats close to the coast would seem to be suitable habitats for the sawfly since *P. gracilis* is present. But despite several Malaise traps set for two days in these habitats and much visual searching, no sawflies were found there. The sandy areas where the sawflies were collected are along the north side of the Intracoastal Waterway where *P. gracilis* is more abundant. This habitat is apparently man-made having been created through the dumping of spoil from the dredging of the waterway. The area has subsequently been colonized by vegetation more characteristic of the foredune and backdune habitats that lie several miles closer to the coast. According to Paul Warren, Army Corps of Engineers, Mobile District, Irvington Office (personal communication), the first channel for this section of the waterway was dug in 1934 and then enlarged in 1944. This probably accounts for much of the dredge spoil

that created the sawfly habitat. However, since that time the waterway has continued to be dredged periodically, most recently in the mid-1980's. The habitat at the type locality has recently been greatly altered by the removal of much of the sand. Most of the remaining habitat suitable for the sawfly lies in a narrow band at the south end of the spoil area.

This is probably the species discovered in the larval stage by W. McDearman, Museum of Natural Sciences, Jackson, Mississippi. According to McDearman (1990 in litt.) when he was at Gulf Shores, Alabama, in early November botanizing along the dunes, "I collected what appears to be sawfly larvae which were exclusively feeding on *Polygonella gracilis* (Nutt.) Meisn. (wireweed). The flowering period for these plants is a bit unusual—late summer and fall—from September through November. As with *Rhadinoceraea* [see Smith and McDearman 1990]—flowers were the primary food. These plants are indeed very slender and wiry with very little stem cortex (stem diameters rarely over 5 mm). I did not observe any indications that larvae emerged from eggs laid within the stem. I watched one larva disperse over a period of about an hour—but didn't see it burrowing in the soil to pupate. No adults were seen." In a subsequent letter, McDearman (1991 in litt.) stated that he returned to the coast in September 1990 hoping to find some larvae and adults on *Polygonella gracilis*, but was too early as few plants were in flower.

Adults were collected near the area McDearman made these observations, from *Polygonella gracilis* flowers, and were collected late in the year (mid-October) during the flowering time of the host (larvae were observed in November by McDearman). These pieces of circumstantial evidence strongly suggest that larvae of *A. autumn-*

nalis feed on the inflorescences of *Polygonella gracilis*.

Polygonella gracilis is an annual of sandhills and occurs in the Coastal Plain from South Carolina to Florida west to Louisiana (Rickett 1967). The sawfly may have a much wider distribution but has escaped discovery because of its restricted habitat and late seasonal occurrence which is very unusual for sawflies.

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